



Patent  
Attorney's Docket No. 0026-0014

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	) Mail Stop AF
	)
Moses Charikar	) Group Art Unit: 2168
	)
Application No.: 10/029,883	) Examiner: Harold Dodds
	)
Filed: December 31, 2001	)
	)
For: METHOD AND APPARATUS	)
FOR ESTIMATING SIMILARITY	)
	)

U.S. Patent and Trademark Office  
Customer Window, Mail Stop AF  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The applicant respectfully requests review of the Final Office Action dated July 26, 2005 in view of the Remarks below and in conjunction with the Notice of Appeal filed concurrently with this request.

**Remarks** begin on page 2 of this paper.

**REMARKS**

Claims 1-29 are pending in this application. Claims 1, 14, 22, 26, 27, 28, and 29 are independent claims. Independent claim 27 is rejected under 35 U.S.C. § 101 and 112. All the independent claims are rejected based on prior art under 35 U.S.C. § 103(a). In particular, the independent claims are rejected based on various combinations of seven different U.S. patents: U.S. Patent No. 5,806,061 to Chaudhuri et al. ("Chaudhuri"), U.S. Patent No. 5,612,865 to Dasgupta ("Dasgupta"); U.S. Patent No. 6,134,532 to Lazarus et al. ("Lazarus"); U.S. Patent No. 5,101,475 to Kaufman et al. ("Kaufman"); U.S. Patent No. 5,794,178 to Caid et al. ("Caid"); U.S. Patent No. 6,349,296 to Broder et al. ("Broder"); and U.S. Patent No. 5,469,354 to Hatakeyama et al. ("Hatakeyama"). More particularly, the patents applied to each of the independent claims are as follows: Chaudhuri, Dasgupta, Lazarus, Kaufman (claim 1); Chaudhuri, Dasgupta, and Caid (claims 14, 27, and 28); Broder and Hatakeyama (claims 22 and 26); and Chaudhuri, Dasgupta, Caid, and Hatakeyama (claim 29).

*Rejection of Independent Claims 1, 14, 22, 26,  
27, 28, and 29 Under 35 U.S.C. § 103*

As variously recited in the independent claims, the present invention is directed to generating a compact representation of an object (also referred to as a similarity sketch). As described in the specification, compact representations of objects are useful in, for example, cataloging similar documents in the context of a web search engine. (Spec., paragraphs 0003 and 0004).

In rejecting the pending claims, such as, for example, claim 1, the Examiner arbitrarily picks and chooses various features from different ones of the applied patents to disclose different ones of the acts recited in claim 1. Applicant submits that, for the following reasons, this type of piecemeal obviousness rejection falls woefully short of a *prima facie* case of obviousness.

Regarding claim 1, the Examiner concedes that Chaudhuri does not disclose many of the features recited in claim 1, such as the concepts relating to acts (b) through (d) in claim 1. (See, final Office Action, page 3). Accordingly, the Examiner appears to contend that Chaudhuri discloses act (a) of claim 1 ("identifying a set of features

corresponding to the first object”), and that Dasgupta, Lazarus, and Kaufman disclose the remaining features recited in claim 1. In particular, the Examiner relies on Dasgupta to generally disclose a hashing vector (final Office Action, page 3), relies on Lazarus to disclose summing vectors (final Office Action, page 4), and relies on Kaufman to disclose creating an “ $n \times x$ -bit representation” (final Office Action, page 5).

Pages 13-16 in the After Final Amendment filed on October 27, 2005 describe in detail how each of Dasgupta, Lazarus, and Kaufman do not even fully disclose the single act that the Examiner relies upon these references as respectively disclosing. Regardless of the technical differences between the sections cited by the Examiner as allegedly disclosing each of acts (b) through (d) in claim 1, Applicant submits that one of ordinary skill in the art would simply not combine Chaudhuri, Dasgupta, Lazarus, and Kaufman in the manner contended by the Examiner.

Applicant concedes that the general concepts of hashing vectors, summing vectors, and otherwise manipulating vectors are known in the art. The Examiner appears to variously rely on Dasgupta, Lazarus, and Kaufman to disclose these general concepts. However, claim 1 recites more than abstract concepts relating to hashing vectors and vector summing. In particular, claim 1 recites a specific method in which each act in claim 1 relates back to a previous act recited in claim one, and that the combination produce the compact representation recited in claim 1.

The Examiner cites a different patent for each of the four acts, labeled (a) through (d), in claim 1. Applicant submits that the subject matter disclosed by the patents are at best, tenuously related to one another (for instance, each reference is classified in a different class/subclass – 714/14, 707/3, 364/184, and 345/425, respectively), and none of the four patents are directed to the concept of generating a compact representation of an object as recited in claim 1. Applicant submits that it is unreasonable to contend that one of ordinary skill in the art, in possession of these four references, would somehow be motivated to combine features from each of the four references to obtain the computer-implemented method for generating a compact representation of a first object, as is recited in claim 1. Motivation for combining these four references can only be found using hindsight taken entirely from Applicant’s specification.

In rejecting independent claims 14, 27, and 28, the Examiner relies on Chaudhuri, Dasgupta, and Caid. The rejection of claim 14 also lacks proper motivation to combine

Chaudhuri, Dasgupta, and Caid as the Examiner contends. As pointed out at pages 20-25 of the Amendment After Final filed October 27, 2005, the Examiner is picking and choosing isolated sections of the various references without considering claim 14 as a whole. Thus, the Examiner has not made a proper *prima facie* case of obviousness with regard to claim 14.

In rejecting claims 22 and 26, the Examiner relies on Broder and Hatakeyama. Again, Applicant asserts that the Examiner has not made a *prima facie* case of obviousness with regard to these claims. More specifically, as discussed at pages 27-30 of the Amendment After Final filed October 27, 2005, the Examiner is performing an improper piece-meal analysis in which the Examiner is not even analyzing a single feature or act of the claim as a whole. For example, the Examiner contends that, in regard to the first act recited in claim 22, that Broder discloses “creating a similarity sketch” and Hatakeyama discloses “based on application of a hashing function.” Although Broder discloses specific techniques for calculating sketches, the sketches of Broder are not created in the manner in which the similarity sketches of claim 22 are created. Hatakeyama does not even mention a similarity sketch. Thus, one of ordinary skill in the art would not be motivated to modify Broder to use a different technique to calculate a similarity sketch, as Hatakeyama does not disclose any different technique.

In rejecting claim 29, the Examiner relies on Chaudhuri, Dasgupta, Caid, and Hatakeyama. Applicant submits that in rejecting this claim the Examiner is again performing a piecemeal analysis of claim 29 by applying different references to isolated phrases in claim 29 without regard to the claim as a whole. Thus, the Examiner has not made a *prima facie* case for obviousness and the rejection should be withdrawn.

*Rejection of Claim 27 Under 35 U.S.C. §§ 101 and 112*

Applicant submits that the rejection of this claim under 35 U.S.C. § 101 is clearly improper in view of the recently released “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Office Gazette of November 22, 2005, referred to herein as “Guidelines”). Claim 27 is directed to a system for generating a compact representation of an object and includes means for summing product vectors to obtain a summed product vector. As described in the specification, a compact representation of an object can be very useful (see Spec., paragraphs 0002 through 0005).

Further, the compact representation, as represented by the summed product vector, is a useful, concrete and tangible result. Moreover, claim 27 is written in means plus function format, as permitted by 35 U.S.C. § 112, sixth paragraph. Accordingly, Applicant submits that when properly construed, claim 27 covers structure described in the specification and thus the rejection of this claim under U.S.C. §§ 101 and 112, first paragraph, should be withdrawn.

### **CONCLUSION**

In view of the foregoing remarks, the applicant submits that clear factual deficiencies exist with respect to the rejection of claims 1-29. Therefore, Applicant respectfully requests withdrawal of the outstanding rejections and the timely allowance of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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